

REMARKS

Claims 1, 5, 7, 8, 10-17 and 19 are all the claims pending in the application. Claim 1 has been amended to incorporate claim 9, which has been canceled. Claim 8 has been amended so that it is consistent with amended claim 1. Claim 10 has been amended so that it does not depend on a canceled claim.

Entry of the above amendment is respectfully requested.

I. Response to rejection of Claims 1, 5, 8, 15 and 19 under 35 U.S.C. § 102(b) or § 103(a)

On pages 2-4 of the Office Action, claims 1, 5, 8, 15 and 19 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Haars et al. (US Pat. 4,432,291).

Basically, the Examiner cites Haars as disclosing wood binding compositions suitable for binding wood chips together to make particle board comprising lignin or lignin sulfonate and laccase or catechol oxidase or peroxidase in an aqueous solution. *See* col. 2, line 5 to col. 4, line 2. In addition, the Examiner asserts that the enzymes of Haars are obtained from the same microorganism sources as disclosed by Applicant, and therefore, the enzymes of Haars inherently meet the pH optimum recitation in the claims. *See* col. 2, lines 27-37.

The Examiner also asserts, that even if the enzymes of Haars are different from those of the invention, it would have been routine to one of ordinary skill in the art to select the suitable laccase or other oxidase in Haars' composition.

Applicants respectfully respond as follows.

The present invention is directed to a treatment composition comprising an enzyme having a polyphenol oxidizing activity and an optimum reaction pH on an alkaline side not lower than pH 7.5 when activity is measured using syringaldazine, and a lignosulfonic acid or lignosulfonate as a substrate, and at least one chemical agent. The chemical agent of the present invention is a solution or powder of a metal salt, a metal compound, or a metal complex

Haars discloses a composition containing phenolic substances, such as lignin sulfonate, and an enzyme, such as laccase or peroxidase. In addition, Haars discloses fungi from which enzymes can be derived. However, various enzymes can be derived from the same fungi and possess different properties. Therefore, Haars does not necessarily teach an enzyme having optimum reaction pH on an alkaline side not lower than pH 7.5.

In addition, Haars does not teach or suggest that the composition contains at least one chemical agent which is a solution or powder of a metal salt, a metal compound or a metal complex.

Further, since Haars does not mention pH of reactions, there is no teaching or suggestion in Haars that would motivate one of ordinary skill in the art to select the specific enzymes of the present invention.

In view of the above, Haars fails to teach or suggest the present invention. Therefore, withdrawal of the foregoing rejection is respectfully requested.

II. Response to rejection of Claims 1, 5, 7-17 and 19 under 35 U.S.C. § 103(a)

On pages 4-5 of the Office Action, claims 1, 5, 7-16 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Haars in view of Conradie (US Pat. 5,399,190).

In addition, on pages 6-7 of the Office Action, claims 1, 5, 7-17 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Haars and Conradie, in further view of Schneider et al. (WO 95/01426).

Applicants respectfully respond as follows.

Basically, the Examiner acknowledges that Haars does not disclose the additional additives of the present invention. However, the Examiner cites Conradie as disclosing that metal soaps of long chain unsaturated fatty acids such as oleic and linoleic acids act as superior wood preservative agents.

In addition, the Examiner cites Schneider as disclosing numerous compositions for various applications comprising an enzyme which may be a laccase, catechol oxidase, bilirubin oxidase from *Myrothecium*, or monophenol monooxygenase.

The Examiner appears to be using hindsight to pick and choose the particular additives of the present invention from the various additives disclosed in Conradie, which is improper. The teaching or suggestion to make the claimed combination must be found in the prior art, not in Applicants' disclosure. *See* MPEP §2143. Therefore, it is impermissible hindsight to assert that the use of the particular additives of Conradie would have been obvious, especially since Conradie relates to a wood preservative that does not contain an enzyme and Haars relates to a wood binding composition.

Accordingly, one of ordinary skill in the art would not combine Haars and Conradie to arrive at the present invention.

Again, the Examiner appears to be using impermissible hindsight to pick and choose the particular enzyme of the present invention from the enzymes disclosed in Schneider. In this case, one of ordinary skill in the art would not be motivated to specifically select bilirubin oxidase based on the disclosure of Schneider, especially because Schneider relates to dyes, fabrics, and paper, but does not related to wood binding composition.

Accordingly, one of ordinary skill in the art would not combine Haars, Conradie and Schneider to arrive at the present invention.

Further, Applicants strongly submit that a mere teaching by itself is not sufficient to provide motivation for one skilled in the art to arrive at the present claimed invention. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

In this case, Conradie and Schneider disclose various additives and enzymes, but do not provide any teaching or suggestion that would motivate one of ordinary skill in the art to specifically select the particular additives or enzymes of the present invention. Therefore, it is respectfully submitted that one of ordinary skill in the art would not arrive at the present invention.

In view of the above, withdrawal of the foregoing rejection is respectfully requested.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No.: 09/319,384

Attorney Docket No.: Q54629

IV. Conclusion


Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 9 has been canceled.

The claim has been changed as follows.

1. (twice amended) A composition for injection treatment of wood for preservation comprising an enzyme having a polyphenol oxidizing activity and an optimum reaction pH on an alkaline side not lower than pH 7.5 when activity is measured using syringaldazine, and a lignosulfonic acid or lignosulfonate as a substrate therefor, and at least one chemical agent,

wherein the chemical agent is a solution or powder of a metal salt, a metal compound, or a metal complex.

8. (three times amended) The composition for injection treatment of wood for preservation as claimed in claim 1, wherein the [composition contains at least one] chemical agent is selected from a fragrant, a deodorant, a rust preventive, a flame retardant, an antibacterial agent, an antiseptic, a sanitizer, an insect-repellent, an antiviral agent, and an organism-repellent.

10. (twice amended) The composition for injection treatment of wood for preservation as claimed in claim [9] 1, wherein the metal is at least one metal selected from copper, arsenic, zinc, chromium, nickel, aluminum, molybdenum, magnesium, or silver.